



Science without borders: Improving impact by interlinking gender, geographic, disciplinary and educational dimensions

**Day 1, Thursday 28 April**

**10:00 – 11:15**

***Plenary 1: Funding agencies: programs for women, assessment processes and funding for the development of science***

**Session outline:**

Science without borders can be achieved by interlinking and sharing policies conducted by the science and technology funding agencies. It is very important to start the summit learning about their programs related to the gender perspective, from experiences at Canada, USA, Mexico and Costa Rica. Panellists will describe success cases and challenges related to women in science and technology, to STEM education and to the gender dimension.

**Possible topics for discussion:**

Cultural differences comparing North and Latin America  
Actions to increase women participation in science and technology  
How to integrate sex gender analysis in research

**Objectives:**

To promote building better research in science and technology  
To foster a better innovation practice.  
To increase the numbers of girls in STEM and women in science.  
To develop international collaboration on the gender issue among the Americas.

**Chair: Julia Tagüeña, National Council of Science and Technology (CONACYT), Mexico**

**Panel:**

**Enrique Cabrero, National Council of Science and Technology (CONACYT), Mexico**

**Title: Policies and programs at the National Council for Science, Technology and Innovation to build a knowledge economy**

Keywords: Women in STEM, Mexican STI policy, equitable access to education and funding, support schemes for women, gender dimension on national programs.

The National Council for Science and Technology (CONACyT) is the government agency in charge of formulating science, technology and innovation policy in Mexico. The country has experienced significant advances in facilitating gender equality, but there is still work to be done. A knowledge society is largely based on talent development and it is equally important that both men and women



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improve their capabilities. CONACYT, as a granting agency, has the objective of enabling access to the best education and funding for men and women on an equitable basis. Nowadays, CONACYT has been promoting innovative policies comprising three elements: training of specialized human resources, support schemes dedicated to promote women participation in science, and the inclusion of a gender dimension on our programs. In these efforts, our main concern is to generate conditions for an equitable participation of men and women, so that we can speak of an inclusive knowledge society.

**Rebecca Keiser, National Science Foundation (NSF), USA**

**Title: Policies and Programs at the U.S. National Science Foundation to Broaden Participation in Science**

NSF has instituted policies to ensure that all researchers, regardless of gender, are given the opportunity for work-life balance. NSF also addresses potential implicit bias in proposal selection through training and policy. Additionally, NSF funds research programs focused on a better understanding of issues that contribute to lower participation of women and other groups in science fields. This presentation will discuss NSF's policies and programs that focus on broadening participation in science to encourage diversity and inclusion.

**Serge Villemure, National Science and Engineering Research Council of Canada (NSERC), Canada**

**Title: The Natural Sciences and Engineering Research Council of Canada – Funding Innovation and Supporting Women in Science**

The Natural Sciences and Engineering Research Council (NSERC) is Canada's federal granting agency for science and engineering. NSERC plays an important role in supporting students, funding discovery research, and promoting innovation. NSERC is also a key player in influencing science policy and culture in Canada. Increasing diversity in the base of Canadian researchers is a crucial component in the development of an educated population and in fostering a strong science culture, which will then result in higher quality research across disciplines. NSERC's Chairs for Women in Science and Engineering (CWSE) program aims to increase women's participation in science and engineering and to provide role models for women in STEM fields. The CWSE program is regionally focused, funding five Chairholders at a time, with additional support provided by hosting institutions and partner organizations. In turn, the CWSE Chairholders develop and implement programming to interest and motivate girls to pursue educational opportunities and careers in science, to develop communication and networking strategies, and to integrate women further into STEM fields while striving to eliminate the barriers to their success. The CWSE program uses creative and inspiring approaches to address concrete challenges facing females in STEM areas. A



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celebration of 20 years of successful operation of CWSE program informs the way forward: NSERC's 2020 Strategic Plan combines new initiatives and support for gender equity, helping Canada lead the way to a more diverse and inclusive future in STEM fields and beyond.

**Maryse Lassonde, The Fonds de Recherche du Québec (FRQ), Canada**

**Title: Women in Science in Quebec Society**

The Fonds de recherche du Québec comprise three Funding agencies: Health, Society and Culture, Nature and Technologies. We will present data concerning the success rates of women in scholarship and grant programs, which vary according to the research fields. Women are still under-represented in Applied Sciences and tend not to be the primary leaders in team grants. Moreover, women have local collaborations whereas men participate in international collaborations, which leads to production of scientific articles that have a lesser impact for women than men. The FRQ have developed a series of measures to facilitate a balance between work and family duties and increase the retention of women in science.

**Carolina Vásquez, Ministry of Science and Technology, Costa Rica**

**Title: Costa Roca action plans to promote the access of women to science and technology.**

MICITT in compliance with international and national law, is committed to implement actions targeted to eliminate gender gaps in Science and Technology. The challenge is being taken by the government, academia, private companies and non-profit organizations.

Within our main activities we have developed research actions in some specific populations in order to focus our efforts. In that sense, we have taken the first steps to develop a gender STI institutional policy with active citizen participation. Currently the main activities are aimed to address gender gaps in STEM careers (Science, technology; engineering and mathematics), identifying girl's talent and capacities in that field and provide information about careers and sheer best practices of our distinguish females scientists and engineers.



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11:45 – 13:00

### ***Plenary 2: Gender Gaps in Science, Technology and Innovation in Latin America***

#### **Session outline:**

The session will present various aspects related with the situation of Latin American women in activities of science, technology and innovation, identifying main bottlenecks and discussing different policy options to address this situation.

#### **Possible topics for discussions:**

- How should we measure the gender gap in STI in Latin America?
- What are the costs the region is facing because of this gap?
- How can we create awareness on the importance of the topic in Latin American countries?
- What are the possible public policies and initiatives to correct the gap?

#### **Objectives :**

The session aims at: 1) describing the situation of women in STI in LAC (main indicators and trends); 2) generating awareness on what are the consequences of for the region 3) discussing appropriate policies to address the gap.

**Introduction and Chair: Julie T. Katzman, Executive Vice-President, Inter-American Development Bank**

#### **Panel:**

#### **Vladimir López-Bassols, International Consultant**

##### ***Title: Indicators on gender imbalance in STI: The importance of measurement***

Addressing concerns regarding gender equity in STI requires a strong evidence base for policymakers including reliable, detailed and updated statistics. This presentation examines some of the indicators commonly used at the national and international level for measuring gender gaps and imbalances in STI and reviews their relevance to the Latin American context. It considers a conceptual framework that could be applied to address current knowledge gaps and outlines suggestions for a pilot data collection in the region.

#### **Janet Stotsky, International Consultant**

##### ***Title: What are the costs of gender imbalance in STI?***

Latin America needs to strengthen the foundations of its economy on activities based on science, technology, and innovation. Despite their growing role in Latin American economies and research-related activities, women remain



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underrepresented in science, technology, and innovation in the region. This study surveys the literature related to women's role in these activities in Latin America and ways to quantify the cost from their underrepresentation. It summarizes approaches that draw on macroeconomic modeling to measure aggregate costs to the economy, and those that draw on empirical microeconomic modeling to assess the extent and consequences of women's underrepresentation in science, technology, and innovation in the region. Finally, the study touches upon the evaluation of the success of programs oriented to assisting women entrepreneurs.

**Geoffrey Oldham, SPRU and GenderInSITE**

**Title: Gender and innovation**

This presentation draws on the work of GenderInSITE which is an initiative to create greater awareness of gender and innovation issues among policy and decision makers. It will also highlight the new work on Gendered Research and Innovation which was pioneered by Londa Schiebinger and her colleagues at Stanford University and which is having considerable impact in a number of European countries. The presentation will also discuss how this new knowledge can best be communicated to those who make policies and decisions.

**José Franco, General Coordinator, Scientific and Technological Advisory Forum (FCCyT), Mexico**

**Title: The Gender Gap in Science, Technology and Innovation in Mexico**

How is the current participation of women in scientific and technological activities in Mexico and what their situation with regard to other countries in Latin America and the rest of the world?

What efforts in legal matters and public policy have been made to encourage greater involvement of Mexican women in science and technology?

**14:30 – 15:45**

**Parallel Session 1A: Sex and Gender Issues in health**

**Session outline:** From research in emergence and re-emergence of viral infections (some of which affect women differently), to policies and practices in vulnerable groups, to the evaluation of social programs, we will be able to revise some of the issues women are facing related to their general health, health care and empowerment.

**Possible topics for discussions:**

1. How the emergence or re-emergence of viral infections may represent a threat for women and their families.



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2. The care of persons with chronic diseases or disabilities, a responsibility almost exclusively attributed to women.
3. Do conditional cash transfer programs, like Prospera (formerly Progres/Oportunidades), achieve their goals aimed at improving women's status, health and well being?

**Objectives:** To revise some issues related to sex and gender in health

**Chair:** Laura Vargas, Scientific Journalist, Mexico

**Panel:**

**Susana López, Institute of Biotechnology, National Autonomous University, UNAM, Mexico**

**Title: Emergent and re-emergent viral diseases: What? Where? Why?**

In the past few years we all have been aware of several public health contingencies related to the emergence or re-emergence of viral infections that threaten the health of a lot of people around the world. Influenza virus, MERS, Ebola, chikungunya, and now Zika viruses have flooded the news all over, have called our attention, and have caused serious concerns. In this talk, I would like to discuss the meaning of emergent and re-emergent diseases, where are they appearing, and why are we recently witnessing, apparently more frequently, these viral health public emergencies. I would also talk about some particular viral infections that affect women differently, and the important role women and mothers, have played in these health contingencies.

**Susan Parker, Center for Research and Teaching in Economics, CIDE, Mexico**

**Title: Gender Effects of Conditional Cash Programs: The Case of Mexico**

Conditional cash transfer (CCT) programs were first introduced in Brazil and Mexico more than a decade ago and have since spread around the world to more than 60 countries. These programs provide monetary transfers linked to investment in human capital of poor families and thus aim to both reduce current and future poverty. CCT programs also have an important gender component providing transfers directly to the female head of household and other actions aimed at improving women's status, health and well-being. The Mexican program Prospera (previously Progres/Oportunidades) began in 1997 and was evaluated using an experimental design and numerous rounds of follow up data permitting longer term effects to be measured. In this presentation we review the effects of Prospera on women's status, including decision making within the household, labor market participation, health outcomes and fertility and marriage.



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**Yesica Rangel, Faculty of Nursing and Nutrition at the University of SLP, Mexico**  
**Title: Contributions of the gender's theory in research of primary caregivers of dependents**

Gender theory has been incorporated into research to highlight the cultural conditions affecting the joint responsibility of primary caregivers. This study makes a systematic and critical review of the research that have been published in the last five years from a gender perspective on the issue of dependent care

Population aging is inseparable from illness and disability, since it brings physiological changes that determine loss of functionality and disease<sup>1</sup>. The chronicity and disability, with or without old age; or old age, with or without chronicity and disability impose an increase on the demand for care of the population, a situation that requires secondarily to question the social order of gender in a patriarchal context in which care is seen as handled on a domestic space which is highly feminized, an imaginary which justifies that this responsibility rests almost exclusively on women, representing a risk to their physical, psychological and social health. Several errors have been identified in terms of gender mainstreaming in care research, prevailing epistemic and methodological confusion that skew the quality of findings<sup>2</sup>.

To perform a systematic and critical review of the studies that have been done on the subject of care from a gender perspective, in order to make a critical review of the theoretical contributions regarding care and gender that have been made.

**14:30 – 15:45**

**Parallel Session 1B: Women in STEM**

**Session outline:** participation of women in STEM in almost all countries is far behind an equal participation, and there are striking differences between countries and regions. This session is aimed to examine strategies and share research results to improve practices and public policies needed to increase women participation in STEM.

**Possible topics for discussions:**

- How to design new paths to address sex and gender inequalities in STEM?
- How to more effectively address the gender gap in STEM?
- How can research be used to better understand the factors that influence the gender gap in STEM on a global scale?
- Which strategies are most effective to promote organizational and systemic change aimed to increase women participation in STEM?



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**Objectives:** To share relevant experiences regarding methodological approaches, research results, and practical experiences aimed to promote women's participation in science and technology.

**Chair:** Dolores Sánchez, National Council of Science and Technology, CONACYT, Mexico

**Keynote speakers:**

**Gayatri Buragohain, Feminist Approach to Technology, FAT, India.**

**Title: Designing approaches prioritizing socially and economically marginalized women and girls' participation in Science and Technology in the context of India.** In

India, work in IT industry is seen very suitable for women which has meant that the boom of IT industry in India created many opportunities for women and there is a high percentage of women working in the IT industry. Education statistics also show higher percentage of women in science education. However, this does not translate immediately into more participation of women in science and technology. Deeply entrenched idea that women are lesser than men and belong at home, multiple discrimination and structural biases that affect women and girls on a daily basis makes it impossible to break the gender barrier even when opportunities are created to specifically promote women/girls participation in science and technology. This presentation will look into the complexities of gender, class, caste and various other marginalizations in India that results in the huge gender gap in science and technology in India. The speaker will also share some methodological approaches that have been used by her organization, Feminist Approach to Technology (FAT) in India to promote women's participation in science and technology, the challenges they have faced and the effectiveness of these methodologies using case studies and storytelling.

**Heather Metcalf, Association for Women in Science, AWIS**

**Title: Critical Theoretical and Methodological Approaches to Broaden STEM Participation**

This methodological paper details the usefulness of critical theoretical frameworks and mixed- methodological approaches for research on broadening participation in science, technology, engineering, and mathematics (STEM). We draw on multi-disciplinary research to discuss critical theory and methodologies. We demonstrate the benefits of these approaches through examples from two critical mixed-methods studies of prominent issues in STEM participation and recognition.

Researchers and practitioners have invested significantly in recruiting underrepresented groups into STEM for decades. These efforts have not translated





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into equitable workforce outcomes. New approaches to broadening participation are necessary for change to occur.

Through critical theoretical and methodological approaches, we aim to illustrate how researchers can create new metrics for STEM retention, engage with pre-existing data in novel ways, and interpret their findings within context. These fresh perspectives help us gain new insights into patterns in our data and experiences had by historically underrepresented groups often overlooked in the research. Such insights expand our knowledge and inform our practice and policy initiatives.

**Víctor Van den Bergh, Goodman Research Group, Inc., USA.**

**Title: Childhood Factors Underlying the Gender Gap in STEM Career.**

The Massachusetts Linking Experience and Pathways Project (M-LEAP) is one of the first large-scale U.S. studies to employ a mixed-methods longitudinal design to prospectively investigate childhood factors that underlie the gender gap in STEM career attainment. Funded by the National Science Foundation and now in its fifth year, the study explores factors influencing 3<sup>rd</sup>-12<sup>th</sup> grade students to pursue or retreat from STEM. At GS8, we will present new findings on gender differences in participants' STEM-related beliefs, experiences, and aspirations, and share our recommendations for addressing gender stereotypes and biases in STEM education.

We were motivated to conduct this study because we saw a missing link in the understanding of early STEM experiences. While many studies have examined STEM interests from middle school onward, or have interviewed scientists retrospectively, few have investigated earlier formative childhood experiences.

We aim to advance knowledge about attracting girls and young women into STEM careers. Our approach is to uncover how girls and boys differ in their STEM-related beliefs, experiences, and aspirations over time, and to what extent these differences predict students' STEM aspirations. The study tests established theories (e.g., Eccles Expectancy-Value Framework [1]), and leverages rich qualitative data to explore the "why" beneath observed trends.

**14:30 – 15:45**

**Parallel 1C: Gender and Climate Change**

**Session outline:**

Climate change impacts human society differently, with the poorest being the most vulnerable (both regions and social groups). Within poor countries and societies, Women are both the largest proportion and main players in climate change adaptation and mitigation actions. In most societies they play a main role in food production, household water supply, children



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education, and many other tasks, while they face difficulties when it comes to the general accessibility of financial resources, capacity-building activities and technologies. It is therefore increasingly evident that gender issues should be incorporated into all decision-making processes on climate action to properly face the mounting challenges posted by climate change, and to achieve adaptation and mitigation global goals.

**Possible topics for discussions:**

1. Reasons and ways to incorporate the gender approach into climate change, an issue with global impacts
2. Which are the most important issues rising when dealing with gender and climate change
3. How do gender issues impact, or should impact public policy and the design of international agreements on climate change
4. Are there clear examples of vulnerable sectors in Latin America more related to gender than poverty, isolation, or housing settlement exposure?

**Objectives :**

The main goal for the session is to establish that gender is a main issue when approaching the challenges posted by change challenge, particularly in Latin America, and to discuss how this can be incorporated into countries public policy, and the climate action international agenda.

**Chair: Salvador Lluch, National Council of Science and Technology, CONACYT, Mexico**

**Key note speakers:**

**Amparo Martínez Arroyo, Instituto Nacional de Ecología y Cambio Climático**

**Title: Gender issues in scientific research and public policy instrumentation in climate change**

The evolution of scientific research in climate change is discussed, with special focus on natural sciences and the gradual incorporation of disciplines from economics, actuary, and more recently from social sciences and humanities. Also, the gender approach and its impacts in international agreements and public policy making is treated as an example of the road to be covered to evolve from knowledge to recognition and implementation.

**Lorena Aguilar, International Union for Conservation of Nature, IUCN, USA**

**Title: Mind the Gap: gender and Climate Change**

This presentation covers some of the linkages between gender and climate change, including agriculture and food security, energy, and consumption, among others. Lorena will also highlight how to transit from international



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agreements to local implementation, with examples from Climate Change Gender Action Plans (ccGAPs), as well as from the Environment and Gender Information (EGI). The presentation will conclude with an analysis of the way forward.

**16:15 – 17:30**

***Parallel Session 2A: The costs of women under-participation in STI, evidence from Latin America***

**Session outline:**

The under-representation of women in STI activities represents a serious waste of available creative intellectual resources and lost opportunity for societies. Estimating what are the economic costs resulting from this situation is a topic that has lately caught the attention of scholars and policymakers. However, it is still relatively unexplored in the context of LAC. In this session the preliminary results of a set of paper financed by an IDB research project and exploring various aspects of this topic, will be presented.

**Possible topics for discussions:**

Are diverse teams more productive in academia and in the private sector?  
Is gender equality in science, technology and innovation an engine of development?  
What are the policy implications of these results?

**Objectives:**

The objective of the session is to gain knowledge of the costs the society is facing because of the gender imbalance in STI activities. This knowledge could provide a solid justification for policy intervention in the field, on the basis of an efficiency rationale.

**Chair: Jocelyn Olivari, UNU-MERIT and Matteo Grazi, Inter-American Development Bank (IDB)**

**Panelists:**

**Lorena Rivera, UNU-MERIT, Netherlands**

**Title: A study of the existence of the publication productivity gender gap among Mexican researchers and its micro and macro effects on the Mexican academic system**

This research provides evidence on the existence and determinants of the publication productivity gender gap in Mexico at an individual micro level using data on the sample of Mexican researchers in the physical and natural sciences,



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who are members of the National System of Researchers (SNI) of Mexico over the ten-year period 2004 to 2013. The research contributes to an improved appreciation of the reasons and consequences of the inequality in scientific performance and standing of women researchers relatively to men researchers in the Mexican context. Although the evidence on gender inequality in scientific careers and scholarly productivity is well documented and investigated for developed countries in the economic and sociology of science literature, it remains limited for developing middle income countries.

The research applies an adapted version of an econometric approach developed by Mairesse and Pezzoni (2015) to account for the gender productivity gap for physicists in French universities and the Centre National de la Recherche Scientifique (CNRS) and further developed by Rivera León et al. (forthcoming) in an econometric analysis of publication productivity gender gaps and their determinants in the research and academic system of South Africa. It specifies and estimates an econometric model consisting mainly of a log-linear regression productivity equation, and corrects for estimation biases, possibly due to selectivity, endogeneity and heterogeneity specification errors by also considering two other equations, a probit for publishing occurrence 'selectivity' and another one for 'promotion'.

An initial descriptive analysis of the data show that the productivity gender gap exists among Mexican researchers affiliated to the SNI in 2013. The average gender productivity gap is relatively large of about 1.3 articles in absolute terms and 20% in relative terms. It is particularly high in the natural sciences and increasing with age and seniority. Women are overall less represented in absolute terms at all the levels of the SNI rankings, and particularly at the highest levels, where the most productive researchers are promoted. We also find that the probability of promotion of women relative to men from one SNI level to the next is always smaller than 10% for all levels with the exception of the most junior level (Candidate researchers).

We intend to illustrate the main findings of our econometric investigation by considering counterfactual simulations with the dual purpose of assessing the magnitude of macro-impacts of existing gender gaps and of the potential impacts of a range of policy scenarios.

**David Cuberes, Clark University, United States**

**Title: How do entrepreneurship gender gaps affect aggregate productivity in Latin American countries?**

The main goal of this research project is to contribute to the understanding of how gender gaps in entrepreneurship affect firms' productivity and innovation and how this translates into aggregate losses of efficiency in Latin American countries. More specifically, we aim to build and estimate a theoretical framework that allows us to



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quantify the importance of the different constraints women face to become entrepreneurs and the impact of each of them at the firm and aggregate level. We plan to focus our analysis on the Chilean economy, a relevant economy in the Latin America region for which we have detailed information on firm characteristics by gender in several years.

Using the framework of Cuberes and Teignier (2016), we want to introduce into the model additional constraints affecting female employers when hiring employees and renting physical and, thus, distorting the size of firms run by women. We would then like to use firm-level data to estimate the model and derive its implications in terms of firm size and firm's productivity depending on whether a firm is managed by a man or a woman. In Cuberes and Teignier (2016), we make the natural assumption that the barriers faced by women in the labor market are independent of their talent. Looking at firm-level data would allow us to test this assumption and estimate the relationship between individual talent and the probability of being excluded. Our second objective is to shed light on the origin of some of the barriers that women face when entering the labor force or becoming entrepreneurs. In order to carry out this second exercise, we need data on actual barriers for women who attempt to work or become entrepreneurs; for example, differential credit access between men and women or differential access to education. This would allow us to explore the origins of the barriers that our model so far takes as exogenous and, at the same time, simulate the model to quantify the aggregate benefits of removing or reducing the size of each of these barriers.

**Diego Aboal, CINVE, Uruguay**

**Title: The impact of gender-neutral incentives for researchers on the STI productivity gap. Evidence from Paraguay**

This paper aims to assess the impact of the Paraguayan incentives program for researchers (PRONII) on the gender scientific productivity gap. By using data from electronic CVs provided by all applicants to the program, we first quantify the incidence of the gap by estimating a Negative Binomial Regression Model where gender is used to explain individual scientific output. Additionally, we use a Difference in Difference (DD) with Propensity Score Matching (PSM) approach to estimate the gender differentiated impact of the program. The PSM methodology also allows identification of whether PRONII's selection process is gender-biased, which would be the case if probability of selection was conditioned by gender. These results provide an insight on how a gender-neutral policy such as PRONII separately affects men and women and whether or not it contributes to close the STI gender gap. This evidence also help understanding how would productivity of research (publications, citations or patenting) be affected by a higher participation of women in science and technology activities. Similar programs exist



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in different Latin American countries; therefore findings have more general policy implications.

**Luis Gutiérrez, Universidad del Rosario, Colombia**

**Title: The effects of gender labor composition on the productivity of the Colombian manufacturing and services sector.**

Research on the contribution of gender to productivity and innovation for Colombian firms is nil. Using rich data from Colombian innovation surveys to manufacturing and service sectors, this research will first detail the gender distribution of employees in both economic sectors, and second will try to gauge to what extent gender diversity contribute to increase the propensity to innovate and productivity in manufacturing and service.

**Néstor Gandelman, Universidad ORT, Uruguay**

**Title: Glass ceiling in research: evidence from a national program in Uruguay**

The Sistema Nacional de Investigadores (SNI) is the largest national research promotion program in Uruguay. The SNI categorizes researchers into four levels. Females represent 55% of those ranked at the lowest level but 12% of those at the highest level. In this paper, we address the existence of glass ceilings in research activities by estimating the probability of females to access the SNI and to growth in its hierarchy. To do so we use a very detailed database with information of researchers' productivity.

**16:15 – 17:30**

### **Parallel Session 2B: Women and outer space**

<b>Session outline:</b> Why it is crucial to get more women into space studies?
<b>Topics for discussions:</b> - How to combine your professional career as a researcher / scientist with your private and personal life, do you perceive any particular challenge due gender aspects? - What are your suggestions to overcome gender barriers in science and technology and more specifically in space science and technology areas? What have been the biggest challenges that you had to overcome to develop a professional career on space science and technology?
<b>Objectives:</b> Women now make up half the national workforce, earn more college and graduate degrees than men, and by some estimates represent the largest single economic force in the world. Yet the gender gap in science and



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technology persists, is it possible to overcome that? Is it possible to make space field and area more accessible for women?

**Chair: Javier Mendieta, Agencia Espacial Mexicana (AEM), Mexico**

**Keynote speakers:**

**Silvia Torres, Science Advisory Board of Mexico (CCC), Mexico**

**Sandra I. Ramirez, Chemical Research Center (UAEM), Mexico**

**Mayra N. Montrose, National Aeronautics and Space Administration (NASA), Puerto Rico.**

**16:15 – 17:30**

***Parallel Session 2C: Sex and gender in understanding genetics and behavior***

**Session outline:**

- The advancement of genetics in understanding human behavior
- General framework of genetics
- Description of genes that have been studied related to social interactions
- Difficulties to differentiate what is related to biology and what to social constructions in human behavior
- Sex differences in normal and pathological behavior

**Possible topics for discussions:** the recent contribution of genetics and epigenetics in advancing the understanding of human behavior.

**Objectives :** To discuss biological factors in sex differences.

**Chair: Xochitl Castañeda, University of California Berkeley, USA.**

**Keynote speakers:**

**Xavier Soberón, National Institute of Genomic Medicine, INMEGEN, Mexico**

**Title: Epigenetics and human behaviour**

- From the genomics perspective, natural anchor for the specialty of socio-biological, complementary to the purely social contemporary visions court.
- Evolution of human genome : Co -evolution biological / theater



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- Comparisons between animals and humans .
- Genes that are being studied in humans in relation to sexual differentiation, including behavior .
- Epigenetics and social interaction.

**Alonso Fernández-Guasti, Center for Research and Advanced Studies (CINVESTAV), Mexico.**

**Title: Sex and gender differences in human behavior**

- Sexual differentiation: biologic, psychologic and social aspects.
- Endocrine and social hypotheses explaining sex differences
- Sex and gender differences y normal and pathological behaviors: difficulties to discern biological and social causes.
- Prevalence and features of psychiatric disorders in men and women.
- Sex differences in response to treatment with psychoactive compounds.